

REMARKS

Favorable reconsideration is respectfully requested in light of the following remarks, wherein Claim 1 is amended. Currently, Claims 1-5 are pending in the present application. Claims 1-5 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,688,468 to *Axinti et al.*

The present invention, as defined in independent Claim 1, pertains to a pressure-fluid-operated percussion device, which comprises a frame allowing a tool to be arranged therein movably in its longitudinal direction, means for feeding pressure liquid to the percussion device and for returning pressure liquid to a pressure liquid tank, and means for producing a stress pulse in the tool by utilizing pressure of the pressure liquid. The percussion device comprises a working pressure chamber filled with pressure liquid and, between the working pressure chamber and the tool, a transmission piston which is movably arranged in the longitudinal direction of the frame and which is in contact with the tool either directly or indirectly at least during stress pulse generation. A charging pressure chamber is provided on the side of the transmission piston facing the tool so that the transmission piston is provided with a pressure surface facing the working pressure chamber and on the side of the charging pressure chamber a pressure surface facing the tool. The means for producing a stress pulse comprise a pressure liquid source connected with the working pressure chamber in order to maintain pressure in the working pressure chamber, and means for intermittently feeding, to the charging pressure chamber, pressure liquid whose pressure enables the transmission piston to be pushed towards the working pressure chamber, against the pressure of the pressure liquid in the working pressure chamber and into a predetermined backward position of the transmission piston such that

pressure liquid is discharged from the working pressure chamber, and for alternately allowing pressure liquid to be discharged rapidly from the charging pressure chamber so that a force produced by the pressure of the pressurized pressure liquid in the working pressure chamber and flowing thereto from the pressure liquid source pushes the transmission piston in the direction of the tool, compressing the tool in its longitudinal direction and thus generating a stress pulse in the tool.

Independent Claim 1 is amended to add the feature "when the transmission piston is in said position and substantially in contact with the tool", thereby by clarifying that when starting to create the stress pulse into the tool, the transmission piston is in contact with the tool. That is, when the pressure above the transmission piston starts to push the transmission piston towards the tool, it simultaneously starts compressing the tool through the transmission piston and the creation of the stress pulse starts at the same time. None of the art of record discloses these patentable features.

In contrast, *Axinti et al.* creates the stress pulse by the impact of the striking piston at the end of the tool. However, the pressure of the pressure fluid starts to push the piston to move towards the tool a long time before it strikes the tool. The pressure affects the piston only until the moment of the stroke, as the flow of pressure fluid is shut down a short time before the impact moment.

As such, in *Axinti et al.*, the pressure of the pressure fluid does not affect compression of the tool during the creation of the stress pulse. In contrast, in *Axinti et al.*, the pressure fluid is directed to the front end of the piston to move it backwards for a new stroke. Thus, the stress pulse in *Axinti et al.* is created at the impact moment by the movement energy of the piston. In

Axinti et al., there is no continuous pressure affecting the piston above it. Rather, in *Axinti et al.*, the pressure fluid pressure is changed from above the piston to the tool side and back again to create the striking movement piston, as described in column 1, line 60 to column 2, line 34.

In contrast, according to the features of the claimed invention, pressure is always acting on the transmission piston, and the stress pulse is created by releasing a pressure fluid from the tool side of the transmission piston. In addition, the pressure fluid above the transmission piston compresses the tool all the time when creating the stress pulse. Such compression stops only at the moment when a new pressure fluid is fed to the charging chamber on the tool side of the transmission piston. Accordingly, *Axinti et al.* fails to disclose the patentable features of independent Claim 1.

For at least the foregoing reasons, it is submitted that the apparatus of Claim 1, and the claims depending therefrom, are patentably distinguishable over the applied document. Accordingly, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, it is respectfully requested that the undersigned be contacted at the number indicated below.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit

Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR
EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,

Date: November 3, 2008
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